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An Investigation Between Field Dependence, Sex Role Identification and Attitudes, Male Versus Female Dominated Career Choice, and Dependency Behavior

Patricia A. Torness

AN INVESTIGATION BETWEEN FIELD DEPENDENCE, SEX ROLE IDENTIFICATION AND ATTITUDES, MALE VERSUS FEMALE DOMINATED CAREER CHOICE, AND DEPENDENCY BEHAVIOR

by

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The University of North Dakota, 1977

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One rather consistent finding from field dependence studies is that males are more field independent, more articulated in their approach to certain perceptual tasks, than females. It appears that cultural factors and the encouragement of independent behavior are related to the development of field dependence or field independence. If society plays a role in the development of individual differences in field dependence, a change in society such as the present movement toward greater equality in sex roles could possibly influence sex differences in field dependence. The present study was designed as a correlational study to assess sex role identity, attitudes, and behavior related to feminist versus more traditionally feminine ideals in relationship to each other and to field dependence.

To accomplish this task the Attitudes Toward Women Scale and Bem Sex Role Inventory were administered 40 male and 40 female subjects who were introductory psychology students in the spring of 1976. Male versus female dominated career choices and a dependency-conformity measure were utilized as behavioral measures. Each subject was also individually administered the embedded figures test and rod-and-frame test to determine degree of field dependence.

Results were that the measures of sex role identity, sex role attitudes, and behavior were not correlated significantly with each other or with the field dependence measures for females or for males. These findings bring into question research which classifies women as feminists or traditionals on only one dimension, i.e., career goals or attitudes expressed on an attitude questionnaire on women's roles. It is felt feminism should be viewed as a multi-dimensional construct which can be expressed in varying degrees for different aspects of a women's life.

This dissertation submitted by Patricia Ann Torness in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

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Date December 5, 1977

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Dedicated to my parents,

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for their many years of

guidance and encouragement.

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ABSTRACT

One rather consistent finding from field dependence studies is that males are more field independent, more articulated in their approach to certain perceptual tasks, than females. It appears that cultural factors and the encouragement of independent behavior are related to the development of field dependence or field independence. If society plays a role in the development of individual differences in field dependence, a change in society such as the present movement toward greater equality in sex roles could possibly influence sex differences in field dependence. The present study was designed as a correlational study to assess sex role identity, attitudes, and behavior related to feminist versus more traditionally feminine ideals in relationship to each other and to field dependence.

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CHAPTER I

INTRODUCTION AND REVIEW OF THE LITERATURE

With the advent of the feminist movement new questions have been generated in psychological research on the psychology of women. Research and writing reflect a growing concern about the dynamics and implications of feminist behavior versus more traditional feminine behavior. Changing roles for women raise compelling issues about effects on the work force, social institutions such as marriage and the family, and the happiness and psychological well being of both sexes as they adjust to new role definitions. Research data on such topics has accelerated rapidly in the last decade.

An area that feminism and changing roles for women may affect is the traditional sex differences found in field dependence. Males have generally been found to be more field independent, more articulated and differentiated in their approach to certain perceptual tasks than females. It appears that socialization and cultural factors relate to the development of field dependence-independence. If societal norms influence the development of individual differences in field dependence, a change in society such as the present movement toward greater equality in sex roles could possibly influence sex differences. The present study is designed to assess feminism as a multi-dimensional construct and to examine feminist versus traditional sex role identity, attitudes, and behavior in relationship to each other and to the

perceptual variable of field dependence. The following survey of the literature will review sex differences in field dependence and highlight the issues in the literature on sex role identity and sex role attitudes. Occupational choice and conformity will be examined in relationship to sex roles and the feminist movement.

Sex Differences in Field Dependence

In the studies of H. A. Witkin and his colleagues there has been an attempt to relate certain general modes of perceiving to certain stable and general types of personality characteristics. Witkin developed three tests of perceptual ability: the rod-and-frame, embedded figures, and body adjustment tests. Each requires that the subject separate an item--a rod, a simple geometric figure, or his or her own body--from its background or context. Witkin reported consistent performance for individuals on the three tests but great variability across individuals in ability to separate an item from its background (Witkin, Lewis, Hertzman, Machover, Meissner, and Wapner, 1954). Witkin and his colleagues hypothesized that those who rely on the visual framework, termed field dependent, are greatly affected by standards derived from environmental pressures; whereas those who utilized their postural senses and could separate an item from its environment, are people who rely on their own internal feelings and convictions.

Witkin explained the measurement of field dependence as an indication of psychological differentiation. Field dependence indicates a limited differentiation and a global manner of perceiving. Perception is dominated by the overall organization of the field or

environment with relative inability to perceive parts of a field or organized whole as discrete or separate. Conversely, field independence is a more differentiated, articulated, analytic mode of perception, and the field independent person is able to extract the salient element from a distracting irrelevant context. According to Witkin there are even broader implications for a person's ability on field dependence tasks. Field dependence is predictive of an individual's cognitive style which is, in brief, a characteristic, self-consistent mode of functioning which an individual shows in perceptual and intellectual activities. Cognitive styles are manifestations in the cognitive sphere of still broader dimensions of personal functioning and personality characteristics.

Witkin found field dependence to be a relatively stable individual characteristic. Developmental changes occur but a person tends to maintain his relative position within his age group. Developmental changes show a continuous increase toward greater field independence between ages 8 to 15 (Witkin, Goodenough and Karp, 1967). After 15 there is a leveling off and stabilization of degree of field dependence through adulthood according to Witkin. In geriatric groups there is a return to greater field dependence (Schwartz and Karp, 1967).

In the almost three decades since the introduction of the concept of field dependence a vast amount of research has been generated on the topic. Among other findings, people having greater field independence have been found to have an increased sense of separate identity and differentiation of self from others (Witkin, Dyk, Faterson, Goodenough and Karp, 1962). Reflecting their use of external sources

of information for self-definition, field dependent persons are selectively sensitive and attentive to the social and human content of the environment (Eagle, Goldberger and Breitman, 1969; Goldberger and Bendich, 1972; Konstadt and Forman, 1965; and Ruble and Nakamura, 1972). Cognitive style is also related to the nature of defenses that persons use. Witkin et al. (1962) state that persons with a more field dependent or global, undifferentiated style tend to use massive repression. Conversely, field independent persons use more differentiated defenses such as isolation and intellectualization. Degree of differentiation is not associated with either a good or bad adjustment but does give clues to the form of pathology or maladjustment. Alcoholics consistently have been found to be associated with field dependency (Bailey, Hustmyer and Kristofferson, 1961; Karp and Konstadt, 1965). Obese persons (Karp and Pardes, 1965), asthmatic children (Fishbein, 1963), patients with a hysterical character structure (Zukmann, 1957) and catatonics (Jannucci, 1964) tend to be field dependent. Greater field independence has been found with paranoids (Jannucci, 1964; Powell, 1964; Witkin et al., 1954) and obsessive compulsive personalities (Zukmann, 1957).

In studies looking at conformity and field dependence, field dependent persons have been generally shown to exhibit greater conformity (Bell, 1955; Linton, 1955), although a more recent study by Birmingham (1974) found no differences in conformity between field dependent and field independent persons. Vocational preference has shown a relationship to field dependence. Field independent college students tend to select fields which utilize analytic skills such as

the sciences, mathematics, engineering, and mechanical activities, while field dependent persons favor occupations that require more involvement with people (DeRussey and Futch, 1971; Zytowski, Mills and Puelpe, 1969).

An early consistent finding in the field dependence dimension is that women tend to be more field dependent than men. A substantial number of studies have confirmed the finding for a variety of varying educational and socio-economic backgrounds (Bieri, Bradburn, and Gulinsky, 1958; Chance and Goldstein, 1971; DeRussey and Futch, 1971; Gross, 1959; Vaught, 1968; Witkin, 1949; Witkin et al., 1954, 1962, and many more). While sex differences generally are found, these differences are relatively slight compared to the range of individual differences within each sex. The weight of present evidence indicates that sex differences are not present before age eight (Bigelow, 1971; Goodenough and Eagle, 1963) or in geriatric groups (Schwartz and Karp, 1967). Not until age 17 do differences in scores between males and females reach statistical significance and only for adults are they consistently significant (Witkin et al., 1954).

Sex differences in field dependence raise intriguing questions as to how individual differences in field dependence arise. The origins of individual differences and sex differences have been researched from a variety of perspectives. Some research suggests that sex differences are confined to visual spatial rather than more generally tasks involving analytic and disembedding ability. The influence of genetic factors, socialization and cultural influences as examined by cross-cultural and developmental research, and sex-role identification on sex differences in field dependence has been investigated.

The embedded figures test loads heavily on a spatial factor when it is included in a battery with other visual-spatial tests (Goodenough and Karp, 1961). Sherman (1967) has argued that it is the spatial component on field dependence tests, rather than the analytic component that is responsible for sex differences in performance. Maccoby and Jacklin (1974), in a review of the literature, likewise conclude that sex differences in disembedding are narrowly confined to visual-spatial tasks. Maccoby and Jacklin cite research in which sex differences are not found in tasks that require ignoring an irrelevant background or focusing on an element rather than a whole gestalt. In a test of selective listening or auditory disembedding the sexes were found to be essentially alike (Maccoby, 1966). In this study subjects, aged 5-15, were asked to ignore an interfering voice and separate out the target voice and message. Also no male-superior sex differences were found in tactual tasks calling for disembedding ability. Witkin and his colleagues (1968) devised a battery of tactual and auditory disembedding tests for blind subjects and used them with 20 congenitally blind and 20 sighted subjects aged 12-18. They found no sex differences on three tasks and girls superior on one of the tactual tasks. A possible flaw in this research is that adolescents were subjects. According to Witkin et al. (1954) sex differences do not reach statistical significance until after age 17. To further substantiate that sex differences in disembedding are limited to visual-spatial tasks, research with adults would be merited.

In attempts to ascertain the impact of genetic or constitutional factors on sex differences in field dependence, studies have been made

of twins. Twin studies have shown contradictory results. Stuart, Breslow, Brechner, Ilyris and Wolpaff (1965) found small variation in field dependence scores for identical twins with increasing variation as the genetic relationship widened over matched pairs. Non-related pairs of subjects showed no relationship in test scores. Murawski (1971) had results which contradicted this finding as he found scores on a test of embedded figures uncorrelated for identical twins, while fraternal twins showed a correlation of .59.

A paper by Broverman, Klaiber, Kobayashi, and Vogel (1968) proposed that a complex interaction effect of sex hormones relates to performance on cognitive tasks and accounts for sex differences in field dependence. The hypothesis (in simplified form) is that large amounts of either estrogens or androgens will tip the neural balance toward activating, rather than inhibiting, functions (toward simple, overlearned, repetitive behaviors and away from complex information processing that calls for reorganizing); however, estrogens are more powerful, so the balance is tipped further in females. Klaiber, Broverman, and Kobayashi (1967) did a correlational study giving male college subjects simple repetitive tasks and two tests requiring restructuring, the WAIS Block Design subtest and the embedded figures test. Measures were also taken of urinary 17-ketosteroids and ratings were made of masculine physical characteristics, both of which were found to be positively correlated with performance on the simple repetitive tasks and negatively correlated with the restructuring tasks. There is no evidence to support or refute the claim that estrogens have a greater effect than androgens.

More research needs to be completed in this area to answer the question of what part, if any, genetics and biological factors play in determining cognitive abilities such as degree of field dependence. Dawson (1972) has hypothesized a possible interaction between biological and cultural factors.

Sex differences, with females exhibiting greater field dependence, have been confirmed in a number of western European countries (Bennett, 1956; Frank, 1956; and Witt, 1955). Significant sex differences have been found in India (Pande, 1970); Japan (Kato, 1965); Sierra Leone, Africa (Dawson, 1967a, 1967b) and Nigeria (Okonji, 1969). In a highly sex-role differentiated society like Mexico, sex differences were more evident in the Mexican than the American sample. Both Mexican males and American females were more field independent than Mexican females (Mebane and Johnson, 1970). Sex differences are not universally found. No sex differences were found among an Eskimo population where children of both sexes were allowed considerable independence and both boys and girls joined their father on hunting trips (Rasmussen, 1956; Service, 1963). Numerous studies have been done with more primitive tribes throughout Africa, Alaska and Australia, and on the basis of these studies Witkin and Berry (1975) conclude that for migratory hunting and gathering samples sex differences in field dependence are relatively uncommon compared to sedentary groups, mostly agricultural. Berry (1966) had suggested that in sedentary, agricultural societies women are placed in relatively dependent positions while in less stratified societies typical of migratory hunting groups, females are relatively independent, have more roles assigned

them, and are evaluated relatively highly in the economic life of the family. These studies imply that sex differences are shaped to an extent by social values and other environmental and cultural influences. The absence of universal sex differences seems to argue for minimal biological determination.

In developmental research looking at parenting techniques, a number of studies have confirmed the finding that greater field independence results when children have early socialization experiences that encourage separation from parents and autonomous, independent functioning (Witkin et al., 1962; Dyk and Witkin, 1965; Dawson, 1967a, 1967b; Dyk, 1969).

If the encouragement of independent behavior has a relationship to the development of field independence, results of studies can be used to explain how society encourages differentiation between the sexes. Society traditionally has rewarded females for dependency but encourages males to develop independent behavior. Tuddenham (1951) reported research results suggesting that boys who are most popular with their peers tend to be independent and the popular girls dependent. A boy who does not act independent is likely to be evaluated as maladjusted, insecure in his masculinity, and immature. Gruder and Cook (1971) found that females who are dependent are apt to receive more help than females who are independent.

Research demonstrates that cultural and socialization experiences relate to the development of individual and sex differences in field dependence. A trend has been underway in our society toward equalization of the roles and treatment of males and females. A

question to be pursued in this context is what effect there would be on traditionally found sex differences in field dependence if society's treatment of the sexes more closely approximates equality. Attitudes toward women's roles were assessed in relationship to field dependence (Torness, 1974). In this study a paper and pencil attitude scale, Attitudes Toward Women Scale (Spence and Helmreich, 1972a) determined liberal attitudes favoring equality of sex roles for males and females versus conservative or traditional attitudes about sex roles. Contrary to the predicted hypothesis for women, females with liberal attitudes were found to be more field dependent than females with conservative attitudes, whereas the opposite relationship occurred for males, resulting in a significant interaction.

The relationship of sex role identification to field dependence has been assessed by a number of studies with conflicting results. Vaught (1965) using the Gough femininity scale and rod-and-frame test found that males were more field independent than females and that masculine subjects regardless of biological sex were more field independent. Vaught (1965) and Witkin et al. (1962) conclude that masculine role experiences are more congruent with independent behavior and traits associated with field independence. Arbuthnot (1975) proposes a differing view saying that masculinity should be associated with field independence for women but not for men. Socialization literature provides evidence that masculine males and feminine females have childhoods characterized by fewer and less complex role taking opportunities and independence-related experiences (Kagan and Moss, 1962; Mussen and Rutherford, 1963). Of 24 studies assessing sex role

identity and field dependence, 12 show no relationship between sex role identity and field dependence (Arbuthnot, 1968; Arbuthnot and Gruenfeld, 1969; Domash, 1973; Farr, 1968; Goldstein and Chotlos, 1965; Goldstein, Neuringer, Reiff, and Shelly, 1968; Gruenfeld and Arbuthnot, 1969; Holtzman and Bitterman, 1956; Kernaligruen, 1973; Schaffer, 1969; Schenkl, 1973; Silverman, Buchsbaum and Stierlin, 1973), six studies demonstrate a relationship between masculinity and field independence (Dawson, 1967b; Fink, 1959; Gump, 1955; McGilligan, 1971; Miller, 1953; Weissman, 1971), and six show an association between sex-reversed sex role identity and field dependence (Arbuthnot, 1975; Fiebert, 1967; Greenwald, 1968; Kidd and Rivoire, 1964; McCaulley, 1964; Vernon, 1972). A variety of measures of sex role identity and field independence were utilized in the studies.

The relationship of sex role identity and sex role attitude to field dependence remains contradictory and confusing. Arbuthnot (1975) suggests that rather than utilizing homogeneous samples measured on one aspect of sex role identity, that a variety of conceptions of the female (or male) role might prove fruitful in attempting to discover relationships to field dependence. In keeping with Arbuthnot's suggestion feminist versus traditional feminine behavior will be investigated as a multi-faceted construct in the present study in order to examine sex role identity, sex role attitudes, and behavioral measurements in relationship to each other and to field dependence. The remainder of the literature review will focus on update measurement techniques and research on sex role identity and on sex role attitudes along with behavioral implications of feminist versus traditional attitudes

toward the female role. Male versus female dominated career choice and conformity have been selected as behavioral indexes to determine what, if any, relationship they have to feminist and traditional attitudes, sex role identity, and field dependence. Research on occupational choice and conformity that pertains to sex role identity and the feminist movement will also be presented.

Sex Role Identity

The psychological study of sex role is fundamental to most research concerning women. Sex role can be defined as the constellation of qualities an individual understands to characterize males and females within a culture. The development of masculine and feminine role identity is influenced by both biological and historical-cultural factors in complex interaction. For years American society has considered masculinity to be the mark of the psychologically healthy male and femininity to characterize the psychologically healthy female. Recently the feminist movement has been urging against sex role differentiation and that restricted role definition prevents men and women from developing fully and completely.

Constantinople (1973), in a thorough review of the literature on masculinity-femininity, rejected the assumption that masculinity-femininity is a bipolar trait, as has been conceptualized by most instruments measuring masculinity-femininity. Evidence suggested that masculinity and femininity are not opposites but each should be measured independently. This is also in agreement with Carlson's (1972) view that characteristics viewed as masculine and those considered feminine may co-exist and interact. Androgyny, from the Greek

"Andro" for male and "Gyn" for female, denotes the integration of both masculine and feminine characteristics within a single individual. More recently scholars in a number of disciplines have begun to concern themselves with the concept of psychological androgyny (Bem, 1974, 1975; Bem and Lenney, 1976; Block, 1973; Gelpi, 1974; Heilbrun, 1973; Kaplan and Bean, 1976; Pleck, 1975; Secor, 1974). The concept of psychological androgyny implies that it is possible for a person to be both masculine and feminine, depending on the situation and appropriateness.

J. H. Block (1973) provides evidence based on cross-national and longitudinal data, that the most effective functioning is a product of the incorporation of positive aspects of both the masculine and feminine sex roles. She found, however, that the socialization process enhanced masculinity and femininity co-existence for men but not for women. Socialization then tends to encourage more androgynous sex role definitions for men but for women socialization reinforced nurturance and submission and discouraged assertiveness, achievement orientation, and independence.

Consonant with the bipolar premises of the traits of masculinity and femininity, Bem developed a strategy of measuring the two concepts separately which allows a person to be masculine, feminine, both (androgynous) or neither (undifferentiated). Research with Bem's Sex Role Inventory (BSRI) has shown that androgynous individuals of both sexes display "masculine" independence when under pressure to conform as well as "feminine" nurturance when interacting with a kitten. In contrast sex-typed individuals were low in opposite sex-typed behavior

(Bem, 1975). Spence, Helmreich, and Strapp (1975) report that for men and women the endorsement of both highly valued masculine traits and feminine traits correlated positively with ratings of self-esteem.

A number of studies have shown sex-typing to be generally associated with poor adjustment. Although Mussen (1962) found high-masculinity in males to be correlated with better psychological adjustment during adolescence, he found high masculine adult males to have less self-acceptance, less capacity for status, more need for abasement, less self-assurance, less sociability, and to be less introspective than their low masculine counterparts. On the positive side, high-masculine males were more adaptive to stress, more self sufficient, and had better sexual adjustment. A study by Harford, Willis, and Deabler (1967) found masculinity in males positively correlated with tough poise, neuroticism, and suspicion, and negatively correlated with warmth, brightness, emotional stability, sensitivity, and sophistication. Stereotypic feminity in females has been related to greater anxiety (Biaggio and Nielson, 1976; Cosentine and Heilbrun, 1964; Webb, 1963; Gray, 1959), low social acceptance (Gray, 1957; Gray, 1959), and a low self concept (Sears, 1970). Cross sex typing correlates with greater intellectual development. Girls and boys who are more sex-typed have been found to have lower overall intelligence, lower spatial ability, and lower creativity (Maccoby, 1966).

Hoffman and Fidell (1977) attempted to find out if sex-typing in females is associated with poor adjustment throughout adult life by administering the BSRI to women in the community and obtaining indexes of their physical and psychological health and their satisfaction with

various aspects of their lives. Masculine, androgynous, feminine, and undifferentiated women exhibited behavior and attitudes consistent with their sex role identity. The researchers felt that the consistency between sex typing, attitudes, and behavior may, in fact, account in part for the lack of differences in health and life satisfaction. Feminine women who are introverted, stay home, enjoy housework, and are involved with children seemed healthy, as did masculine and androgynous women who were extraverted, disliked and avoided housework, and enjoyed their occupation. This interpretation was supported by another study in which women who were doing what they wanted to do, were better adjusted than housewives who wanted outside employment (Fidell, 1976). Masculine and androgynous women were better educated, more liberal, and enjoyed higher income and higher self-esteem, perhaps as a direct result of employment. The results did not suggest poor adjustment among middle class masculine, androgynous, feminine, or undifferentiated women who have consistent sex role identity, attitudes, and behavior.

Sex Role Attitudes

Broverman and associates (Broverman, Vogel, Broverman, Clarkson, and Rosenkrantz, 1972) conducted an extensive series of studies and concluded that stereotypic thinking about sex role personality traits is pervasive. They also found a greater number of desirable traits are assigned to men than to women. The valued traits for men relate to competence, and those for women are associated with warmth-expressiveness. Aherence to traditional sex role expectations is found in school settings, children's literature, textbooks, mass media, and in language styles.

Traditional or conservative attitudes toward women's roles is the belief that under ordinary circumstances women belong in the home, caring for children and handling domestic chores, whereas men provide financial support for the family. A more contemporary or liberal attitude toward sex roles holds that the relationships between men and women are ideally equalitarian and that husbands and wives share domestic, child-rearing, and financial responsibilities. Research has been conducted which examines the relationship between attitudes toward women's roles and how these attitudes relate to behavior, goals, and indexes of psychological well-being. Attitudes on sex roles, for the purpose of research experiments are typically measured by attitude scales, questionnaires, or by membership in a feminist organization.

In administering the Attitudes Toward Women Scale (AWS) to differentiate between traditional and liberal attitudes, Halas (1974) found a college student sample of females held more liberal attitudes than housewives. Variables associated with liberal attitudes toward women's roles were non-stereotypic childhood socialization, wide social experiences, and influence by the Feminist Movement. Another study (Lipman-Bluman, 1972) utilizing a questionnaire to assess attitudes of married women (graduate student wives), found that women who had contemporary or liberal views toward the female role tended to have mothers who did not find household tasks satisfying and whose overall life satisfaction was low. Perhaps, this encourages the daughter to seek a different life pattern. Women with contemporary views tended to perceive themselves as more distant and separate from their parents. They also reported more loneliness as adolescents. These findings indicate some possible

parallels with the previous cited research by Block (1973) in terms of the socialization patterns for women with androgynous sex role identification and women with non-traditional sex role attitudes. Block found that a high degree of socialization was negatively correlated with androgyny and positively correlated with femininity. Lipman-Bluman also reports that women with contemporary views are just as likely to express satisfaction with their husband, marriage, and motherhood as traditionals, but were more likely to postpone marriage until completion of their college studies. Non-traditionals expressed more dissatisfaction with routine household tasks but were equally as satisfied with more creative ones, such as sewing, entertaining, and interior decorating. In data collected from 200 couples--largely young educated, and middle class, Kirkpatrick (1975) found sexual satisfaction correlated negatively with femininity and positively with feminism.

Educational level shows a relationship to attitudes toward women's roles. According to a study by Collins (1974) male and female subjects, ranging from college age to middle age, demonstrated that persons with a high school degree were the most conservative while those with a graduate or professional degree were the most liberal as measured by the AWS.

Members of feminist organizations scored significantly higher on the BSRI androgyny scale than working women, university women, and housewives. Working women also exceeded housewives in level of androgyny (Jordon-Viola, Fassberg and Viola, 1976). Depending on the point of view taken, these results lend validity to the BSRI measurement of androgyny or to feminists' demonstrating congruence between their

expressed ideology of equality between male and female sex roles and their own sex role identity. Zeldow (1976) found when attitudes toward women's roles were determined by the AWS, a paper and pencil attitude scale, androgynous women as measured by the BSRI did not differ from persons with masculine or feminine sex role identities in their attitude toward the female role. Only males with a preference for the feminine sex role differed from the other sex and sex role identity groups in that they exhibited more traditional, conservative attitudes toward the rights and roles of women in contemporary society.

Horner (1972) postulated a fear of success motive to account for performance decrements by high ability women in mixed sex competitive achievement settings. While women were motivated to succeed, it was hypothesized that fear was aroused by the anticipation of negative consequences of success. Horner's study has spurred a great deal of research and speculation, often with conflicting results, in attempts to validate the concept. In a study by Peplau (1976) examining sex role attitude and fear of success, attitudes toward sex roles were found to have greater impact that women's fear of success on achievement both in the laboratory and in daily life. While no significant relationships were found with the fear of success measure, women with traditional attitudes performed significantly better on a verbal task when working as a team with their boyfriend than when working in individual competition. Sex role traditionalism was also associated with significantly lower career aspirations, lower SAT verbal scores, and lower self-ratings of intelligence.

The Feminist Movement is becoming a louder voice in our society, but certainly has not been totally accepted. The Equal Rights Amendment

which simply states, "Equality of rights under the law shall not be denied or abridged by the United States or by any state on account of sex," was sent to the states for ratification in March, 1972. Rarely has a proposed amendment to the U. S. Constitution caused such an uproar and as emotionally-charged disputes between supporters and non-supporters. The amendment remains three states short of the 38 that must give their approval before the measure becomes law. If it remains unratified until March, 1969, it automatically becomes extinct. Despite a general lack of agreement, there have been trends in our society that indicate feminist ideology is on the increase. A marked shift toward feminism was found in questionnaire data collected from college women in 1969 and 1973 (Parelius, 1975). However, this study shows little change in women's perception of men as relatively conservative. Parelius speculates that strains may be developing as more women adopt attitudes which they believe men reject.

Studies have reported positive aspects of the Feminist Movement and feminist ideology such as feminists showing greater self-actualization on the Personal Orientation Inventory than their conservative peers (Hjelle and Butterfield, 1974), but that conflicts occur for women as they pursue goals not always accepted by society has also been documented in the literature. Guilt and anxiety have been related to the pursuit of non-traditional interests and achievements by women (Horner, 1972; Maccoby, 1966; Phillips, 1975). Women are experiencing more freedom today in deciding their roles and values--be it being single or married, being childless versus motherhood, or pursuing a career versus being a full time homemaker. More research

is continually needed on how traditional and non-traditional role choices affect women and on what factors contribute to women being happy, satisfied, and productive in their choices.

Occupation: Sex Typing and the Feminist Movement

The occupational world is sex-typed (Kreps, 1971). Over 70 percent of the American women are in only four fields: teaching, nursing, secretarial work, and social work. Women are thought to prefer work that represents an extension of their domestic roles and involves helping, nurturing and socializing activities. Women are working in greater numbers than ever before. From 1948 to 174, the number of women in the American work force grew from 17.3 million to 36 million, which represents 46 percent of all women over 16 (U.S. Department of Labor, Employment Standards Administration, Women's Bureau, 1975). Women, however, remain underrepresented in occupations where prestige and financial rewards are greatest. The earnings gap between women and men continues to widen. In 1974 women employed full time had a median income of $6,488, or 57 percent of the $11,468 received by men. In 1956 fully employed women's earnings were 67 percent of men's earnings; in 1970 they were 59 percent. Women's median income was far below that for men at every educational level. For college graduates, the median income of women was about 59 percent of men's; for women with four years of high school, 55 percent; and for women with eight years of schooling, also 55 percent (U.S. Department of Labor, Employment Standards Administration, Women's Bureau, 1975).

One question that might be asked is whether women have equal opportunities to obtain job prestige and have their talents accepted, or whether women are discriminated against as often is asserted by women. It has been verified in the laboratory setting that occupational prestige levels increase as males move in and decrease with a greater number of females (Touhey, 1974). Recently research studies have assessed attitudes toward competent women. The literature has shown that competent men are better liked, given higher status, and are more desired as group members than incompetent men (Aronson, Willerman, and Floyd, 1966; Kahn and Alexander, 1971; Shaw and Gilchrist, 1955). Deaux (1972) and Spence and Helmreich (1972b) confirmed that competent women were better liked by both male and female observers, when observed on video tape, than incompetent women, although Spence and Helmreich found male subjects with more traditional attitudes toward women on the AWS showed weaker preference for the competent women. Rather than simply having the competent women observed, Hagan and Kahn (1975) did a study with a competent woman in interaction with others. Males liked the competent woman only when they viewed her performance and were not involved in the interaction. Both males and females were more likely to exclude a competent woman from their group than a competent man and to include an incompetent woman than an incompetent man.

Male response to women depicted in roles varying in degree of "liberatedness" was looked at in a study by Dufresne (1971). Liberated women were not "liked," but they were assigned higher status jobs than the neutrally regarded traditionals. Equalitarian women fared the best; they were liked and given high status assignments.

In a review of the literature O'Leary (1974) examines attitudes which inhibit women from engaging in the achievement-oriented behavior necessary to enable promotion into managerial positions. External attitudinal barriers were cited as societal sex role stereotypes and attitudes toward competency in women. Internal factors considered were fear of failure, low self-esteem, and role conflict. Women who work often take on the concerns of the job plus major responsibility for housework and childcare. According to Hall and Gordon (1973) home pressures are the most important contributors to role conflict and pressure in women. The incidence of conflict was negatively related to happiness and satisfaction.

Blank (1975) studied personality characteristics of female college students selecting male versus female dominated career choices. Females in male-dominated professions indicated a higher need for achievement while women with female-dominated choices exhibited a strong "nurturing" pattern (comprised of affiliation, succorance, and nurturing needs). Tangri (1972) found women in non-sextyped occupational choices to be more autonomous, individualistic, motivated by internally imposed standards, and to have greater career commitments than their counterparts in traditionally female occupations. Rather than cross-sex role modeling, Tangri also found that women in non-traditional female careers were influenced by role modeling of educated, working mothers. Block (1973) does report, however, that women diverging from a traditional, feminine sex role stereotype were more likely to achieve occupational advancement.

Conformity: Sex Typing and the Feminist Movement

Femininity has typically been described as yielding, submissive, passive, dependent; masculinity as independent, forceful, self-reliant, assertive, aggressive. If a feminist person is going to proclaim herself as emancipated in attitudes and identity from the traditional feminine sex role, correspondingly this should be reflected in autonomous, independent, and nonconforming functioning.

Traditionally, a majority of the social conformity studies that have examined sex differences have found females to demonstrate greater social conformity than males (Asch, 1956; Crutchfield, 1955). On the other hand, more recent conformity studies have not found sex differences (Johnson and McDonnell, 1974; Sustruck and McDavid, 1971). The possibility exists that changing sex-role expectations have contributed to recent divergences from traditional social conformity findings.

The hypothesis was tested by two studies that changing and nontraditional sex-role expectations for women would be related to nonconforming behavior. Both studies used the AWS as their measurement of traditional versus nontraditional attitudes toward women's roles and standard Asch conformity paradigms. Johnson and McDonnell (1974) found males with liberal attitudes toward female roles conformed less than conservative males, but no liberal-conservative differences were found for females.

Sex role identity may demonstrate more of a relationship with conformity than attitudes toward sex roles. As cited previously, Bem (1974) discovered in her study of males and females in various

behavioral situations that females high in femininity exhibited the greatest conformity. In a study in which the subject predicted the occurrence of possible events after hearing the predictions of two other planted "subjects," stereotypic feminine females, as measured by the BSRI, were the most influenced by others' judgments. Androgynous females, androgynous males, and masculine males did not differ from one another (Brehony, Augustine, Barachie, Miller, and Woodhouse, 1977).

Statement of the Problem

Females have been found to be more field dependent than males and socialization factors have been shown to relate to the perceptual variable of field dependence. Feminist ideology and changes in our society toward greater sex role equality could possibly influence sex differences in field dependence. The Feminist Movement is a relatively recent trend in our society and leaves many open questions. It is not entirely clear how a feminist is defined or what it means to be a feminist. Feminism may be looked upon as a construct which may have a number of dimensions which are related but not exactly the same. Rather than measuring one aspect of feminism, this study will look at sex identity, attitudes, and behavior related to feminist ideals in relationship to each other and to field dependence.

The present study is designed as a correlational study to assess the associations between sex role identification, sex role attitudes, occupational choice, conforming behavior, and field dependence. It is hypothesized for women that androgynous sex role identification, male-dominated career choices, nonconforming

behavior, and field independence will show positive correlations with each other. Liberal attitudes toward women's roles are expected to be negatively correlated with field independence. While this study is designed around the concept of feminism, which particularly applies to women, men will also be used as subjects as it is felt that important information can be gained by looking at sex comparisons and that sex role equality will also have an impact on males. It is predicted for males that androgynous sex role identification, liberal attitudes toward female roles, and field independence will be positively related.

CHAPTER II

METHOD

Design

The study is designed to investigate correlations between measures of dependence/independence and a variety of variables related to sex roles. Each subject was administered the same battery of assessment instruments. Subjects were administered the Embedded Figures Test, Rod-and-Frame Test, Attitude Toward Women Scale, and Bem Sex Role Inventory. A questionnaire was completed which requested the subject's occupational choice. In a contrived situation a measure of each subject's conformity to an experimenter's suggestion was obtained.

Subjects

Subjects were 80 students enrolled in an introductory psychology class at a midwestern, liberal arts, state university. The 40 female and 40 male subjects volunteered to take part in the study. Class credit was awarded for research participation.

Materials

The assessment measures and equipment used consisted of the following:

Embedded Figures Test (EFT)

A shortened version of the EFT as described by Witkin et al. (1954) was given subjects to measure field dependence-independence.

The simple and complex figures which comprise the EFT are derivations of those used by Gottschaldt (1926). Twenty-four pairs of simple and complex figures were originally selected to make up the EFT. In this test the subject's task on each trial was to locate a previously seen simple figure within a larger, complex colored figure which has been so organized as to obscure or embed the sought-after simple figure. A maximum time of five minutes was originally allowed per trial. The field dependence measure was the time required to locate the simple figure.

Reliability coefficients for the EFT are substantial, the median coefficient in 10 studies being .91 (Witkin et al., 1962). Bauman (1951) found a test-retest reliability of .89 after a three-year interval for both a group of men and a group of women in their 20's.

Reliability coefficients for the EFT were considered high enough to justify a reduction in length of the test for research purposes. Jackson (1956) conducted an item analysis of the EFT and found that adequate reliability and validity could be maintained with a 12-figure test and with a three-minute time limit. He reports correlations in the mid-nineties between the shortened and full-scale EFT for several groups of subjects. The 12-figure test was used for this study.

Rod-and-Frame Test (RFT)

The RFT was administered as an additional measure of field dependence. A Marietta Rod-and-Frame Device (Model 69-A-18-10), similar to the test apparatus described by Witkin et al., 1954, was used. The device consisted of a square one inch wide and 42 inches long with

a 40 inch by one inch rod, which pivoted in the center of the frame independent of the frame. An illuminated protractor scale located behind the frame shaft permitted the examiner to read the position of the rod and frame in degrees. The rod and frame are coated with luminous paint and during the test were the only objects visible in the completely darkened room. The examiner was concealed from the subject by sitting behind a 7 1/2 foot by 6 foot sheet of masonite painted flat black. A hole cut in the center of the shield allowed the examiner to read the protractor scale and to operate controls to position the rod and frame for the beginning of each trial. The subject was seated 7 feet from the front of the test apparatus in a barber chair equipped with a footrest and headrest. A device with a remote control switch to orient the rod was given to the subject. The subject's task was to adjust the rod within the tilted frame to the vertical position in the darkened room. A large tilt of the rod, when it is reported by the subject to be straight, indicates adherence to the visual field (field dependence) and a small tilt indicates independence of the field (field independence).

Witkin et al. (1962) have demonstrated the reliability of the RFT as a stable measure of cognitive style of field dependence-independence. Test-retest reliability correlations were .84 for men and .66 for women over a three-year interval. Witkin et al. (1962) report from a study involving 51 college students of each sex that the EFT correlates with the RFT significantly (.01) for men (r=.64) but nonsignificantly for women (r=.21).

Attitude Toward Women Scale (AWS)

The AWS (Spence and Helmreich, 1972a) was administered as a measure of conservatism-liberalism in attitudes toward women and their roles. The AWS is a revision of the Kirkpatrick Belief-Pattern Scale for Measuring Attitudes toward Femininism (Kirkpatrick, 1936). The AWS consists of 55 statements describing the rights and roles of women in areas such as education, vocation, dating, marriage, sexual behavior, and etiquette. There are four response alternatives for each statement: Agree Strongly, Agree Mildly, Disagree Mildly, and Disagree Strongly.

Spence and Helmreich administered the AWS to 420 men and 529 women enrolled in introductory psychology at the University of Texas at Austin during the spring semester of 1972 and again to 293 men and 239 women during spring semester of 1973. Men were found to be more conservative or traditional in their attitudes toward women's roles than women. The data indicated that the distributions for the two semesters are similar, particularly for the women. The authors conclude that the stability of the distribution suggests, indirectly, that a reliable phenomenon is being tapped.

Kilpatrick and Smith (1974) attempted to evaluate the validity of the AWS by administering the scale to 13 women members of the National Organization of Women (NOW), an active feminist group. In comparison with normative data for female college students, the attitudes of the NOW members were significantly more liberal, suggesting the scale is a valid measure of such attitudes.

Contrary to some impressions of female advocates of "womens lib" being highly masculine and highly masculine men being anti-feminist, Spence and Helmreich (1972a) did not find a relationship between conservative-liberal attitudes toward women as measured by the AWS and masculinity-femininity. The California Personality Inventory Femininity Scale (Gough, 1969) and the AWS were given to 343 female and 267 male students. The Pearson r between the two scales for the males was .07 and for the females -.05, neither coefficient being significantly different from zero.

Bem Sex Role Inventory (BSRI)

The BSRI (Bem, 1974) was utilized to obtain a measure of each subject's sex role identification. The masculinity and femininity scores obtained from the inventory reflect the relative amounts of masculinity and femininity that the person includes in his or her self-description. The BSRI consists of a list of 60 personality characteristics: 20 traditionally masculine (ambitious, self-reliant, independent, assertive); 20 traditionally feminine (affectionate, gentle, understanding, sensitive to the needs of others); and 20 neutral (truthful, friendly, likable). The characteristic qualified as masculine if it was judged by two independent samples of undergraduates to be significantly more desirable in American society for a man than for a woman ($p < .05$). It qualified as feminine if it was judged to be significantly more desirable for a woman than for a man ($p < .05$). The masculine, feminine, and neutral characteristics appear in random order on the inventory and are rated on

scale of one ("never or almost never true") to seven ("always or almost always true") as to how accurate each word is as a self-description.

Normative data for the BSRI were obtained from 444 male and 279 female students in introductory psychology at Stanford University during the winter and spring quarters of 1973. Bem (1974) found scores internally consistent (average α=.86), reliable over a 4-week interval (average r =.93), and uncorrelated with a tendency to describe oneself in a socially desirable manner (r= -.06).

Bem (1975) attempted to validate her inventory in situations where actual behavior was measured. Briefly, subjects having nearly equal masculinity and femininity scores demonstrated sex role adaptability and could engage in situationally effective behavior without regard for its stereotype as masculine or feminine sex-typed behavior. Those who were classified as masculine or feminine sex role types engaged in mainly sex role appropriate behavior and were assessed as more constricted in their behavior and unable to cross roles.

Occupational Choice

A questionnaire was administered to each subject in which the subject was to indicate his or her occupational choice. If the student was undecided, the questionnaire instructed the subject to indicate what his or her occupation would most likely be. The title for the occupational choice had to be taken from a listing shown to the subject. The listing of job titles was from a detailed listing of occupations provided by the U. S. Bureau of Census (1973).

Procedure and Scoring

The procedure consisted of administering the AWS to introductory psychology students in a group setting. The score for the AWS was determined by the response to each of the 55 items being scored from 0 to 3, the low value indicating the conservative, traditional attitude and the high score a more liberal, profeminist one. Since the statement contained in some items is conservative in content and in others is liberal, the specific alternative (Agree Strongly or Disagree Strongly) given a zero score varied from item to item.

During a different class period the same introductory psychology students were asked to complete the BSRI. The BSRI was scored according to Bem's revised scoring procedure (Bem and Watson, 1976). A masculinity and femininity score was calculated for each subject. The subject's masculinity score was the mean of that subject's ratings on the 20 masculine adjectives, as rated on the 7-point scale. The femininity score for each subject was the mean of his or her ratings on the feminine adjectives. Based on these scores subjects can be divided into four categories according to their femininity and masculinity scores. To divide subjects into the fourfold classification, the median masculinity score and the median femininity score for the entire sample of males and fmmales combined is computed. Once the median masculinity and femininity scores have been determined, subjects are classified into one of the four categories as follows:

		Masculinity Score	
		Above Median	Below Median
Femininity Score	Above Median	Androgynous	Feminine
	Below Median	Masculine	Undifferentiated

During the class period in which the BSRI was administered students were asked to sign their names to a list if they were willing to participate in future research in which class credit would be given for their participation. Subjects volunteering for future research were given a designated time at which they were initially individually administered the EFT and then a questionnaire requesting their occupational choice. The EFT was administered with the subject sitting at the side of a table facing the experimenter so that the experimenter could present the cards showing the complex and simple figures and observe the subject tracing. The complex form was first shown to the subject for 15 seconds. The card containing the simple form was then placed over the complex form, and the subject was allowed to study it for 10 seconds. After 10 seconds the simple form was removed, and the subject was instructed to verbalize as soon as the simple form was found in the complex form and then to trace it with a stylus. After one practice trial in which the procedure was explained to the subject, the 12 cards of the EFT were presented.

The score for each item was the time taken to verbalize that the correct simple form had been found. A maximum of three minutes was allowed for each trial after which a failure was recorded and scored

as three minutes. The time for each item was converted into seconds, summed for the 12 items, and divided by 12. The resulting value, the mean solution time per item, was computed for the subject's score. The higher the score, the greater the influence of the embedding context and the higher the field dependence.

After completing the EFT subjects filled out a questionnaire. One question requested the subject's occupational choice. The title for the occupation was selected from the listing provided. Each subject's occupational choice was transformed into a percentage score. The score was computed as the percentage of males in the occupation as taken from the 1970 U.S. census figures (U.S. Bureau of the Census, 1973). The percentage score is operationally defined as the male dominance in a particular occupation as indicated by the percentage of males employed in the occupation at the time of the 1970 census. The higher the percentage score, the greater the male to female ratio in the profession and, hence, the more the occupation may be looked on as a traditionally male dominated or masculine profession.

The RFT was administered to subjects after completion of the questionnaire. Before being led into the testing room, the subject was given the following instructions:

> The purpose of this test is to determine how well you can establish the upright or vertical. The test apparatus contained in the completely darkened room you will be entering consists of an illuminated rod and frame which will be tilted at varying degrees for a series of 27 trials. After entering the testing room you will be handed a remote control switch

which rotates the rod. Your task will be to use the switch to adjust the rod on each trial so that it is vertical or pointing straight up and down--like a flagpole. You will be led blindfolded into the room and will remain blindfolded and seated in a chair for 4 minutes. At that time you will be told to remove the blindfold and will have an opportunity to practice operating the remote control switch before the trials begin. The examiner in the room operating the test apparatus will give you further instructions and answer any questions you may have. Toward the end of the trials I will be entering the room and will again lead you out of the darkened room. Any questions?

After four minutes of sitting blindfolded in the testing room, the subject was instructed by the examiner operating the RFT equipment to remove the blindfold and to practice operating the remote control switch. The examiner set the rod and frame to the appropriate setting to begin each trial. The subject was instructed to close his or her eyes while the rod and frame settings were adjusted by the examiner and to open them to set the rod in the vertical position with the remote control switch. The subject indicated each time when he or she had adjusted the rod to the desired position thought to be vertical, and this setting was recorded. The subject's RFT score was the average deviation in degrees from true vertical across the first twenty trials. The higher the score, the greater the influence of the frame and the greater the field dependence.

The order of the settings for the 27 trials administered was determined from a table of random numbers and is as follows:

(1) rod, left 30; frame, right 30 (2) rod, left 30; frame, left 30

(3) rod, left 60; frame, left 30 (4) rod, right 30; frame, right 30

(5) rod, 0; frame, right 30 (6) rod, left 60; frame, right 30

(7) rod, right 30; frame, right 30 (8) rod, right 60; frame, right 30

(9) rod, 0; frame, left 30 (10) rod, right 30; frame, left 30

(11) rod, right 30; frame, left 30 (12) rod, left 60; frame, left 30

(13) rod, left 60; frame, right 30 (14) rod, 0; frame, left 30

(15) rod, right 60; frame, left 30 (16) rod, left 30; frame, right 30

(17) rod, left 30; frame, left 30 (18) rod, right 60; frame, right 30

(19) rod, 0; frame, right 30 (20) rod, right 60; frame, left 30

(21) rod, 0; frame, right 30 (22) rod, 0; frame, left 30

(23) rod, right 60; frame, right 30 (24) rod, left 30; frame, left 30

(25) rod, right 60; frame, left 30 (26) rod, left 60; frame, right 30

(27) rod, left 30; frame, right 30

Trial settings 21-27 were administered in addition to the first 20 that were used to obtain the measure of field dependence. The additional trials were administered as an attempt to measure how dependent or conforming the subject acted in an actual behavioral situation. To obtain this measure a pre-planned, contrived situation with the two examiners serving as confederates was carried out. A female examiner gave the instructions to the male subjects and led them into the room while a male examiner operated the RFT equipment. For female subjects the male examiner instructed the subject and led them into the room, and the female examiner operated the testing apparatus. After trial 20, the examiner in the testing room instructed the subject to knock on the door behind him or her. The subject was told that the other examiner would enter the room to observe the last few trials and

would then be leading them out of the room. The examiner observed two trials and following trial 22 the examiner said to the subject, "Are you sure that you are holding your head completely straight. It appears you are tilting the rod too much to the left."

The behavior measure of how conforming or dependent the subject was in responding to a suggestion from a member of the opposite sex was computed by determining the direction change in the rod setting on the last five trials in comparison to the first twenty. To calculate the score for each subject the average or mean degree of tilt from true vertical was computed for the first 20 trials and then for the last five trials. Tilts to the left were added as plus scores and tilts to the right were treated as minus scores. The mean score for the end 5 trials was then subtracted from the mean score for the beginning 20 trials. This indicated if any change in direction of tilt occurred after the contrived suggestion to the subject. For the final score, and to equalize for subject variability in RFT performance, the score obtained by subtracting the last five trials from the first 20 was divided by the standard deviation of the subject's first 20 trials. A positive final score is in agreement with the confederate's suggestion that the rod had been tilted too much to the left and indicates that on the last 5 trials, the subject placed the rod farther to the right than the average from previous trials. A minus score indicates the subject did the opposite of what was suggested by the researcher.

Subjects were debriefed and told that the purpose of all parts of the research experiment in their introductory psychology recitation sections following the collection of data from all subjects.

CHAPTER III

RESULTS

Means, Significance of Sex Differences, and Comparisons with Normative Data

Before considering results bearing on the main hypothesis, preliminary sections are devoted to means and standard deviations for each assessment measure along with tests for significant sex differences. Where prior data is available results will be compared to normative samples and a 1974 North Dakota sample.

Field Dependence

Degree of field dependence was measured by scores obtained on the embedded figures test (EFT) and rod-and-frame test (RFT). Mean field dependence scores for each sex are found in Table 1. High scores represent greater field dependence. To test for significant differences between males and females, *t* tests were computed.

TABLE 1

MEANS, STANDARD DEVIATIONS, AND SIGNIFICANCE OF SEX DIFFERENCES ON THE EFT AND RFT

	Females (n=40)		Males (n=40)				
	Mean	S.D.	Mean	S.D.	t	df	p
EFT	55.94	26.91	41.19	16.90	2.94	67.02	<.01
RFT	4.64	5.52	2.33	1.54	2.55	55.66	<.02

F tests were computed to determine if there was significant differences in the variance. This preliminary investigation showed that for females the variance of the scores was significantly greater than for males. The significant differences in variance were adjusted for in the degrees of freedom. The t tests in Table 1 indicate that sex differences were significant for both measures of field dependence with women being significantly more field dependent. The direction of the sex difference is in agreement with Witkin's reported findings and numerous other studies (Bennett, 1956; Bieri, Bradburn, and Gulinsky, 1958; Chance and Goldstein, 1971; Gross, 1959; Newbigging, 1954; Vaught, 1968).

Results from the present sample were compared with Witkin's normative data. This comparison is presented below with t tests assessing the significance of the difference between the two populations.

TABLE 2

SIGNIFICANCE OF DIFFERENCE BETWEEN RFT AND EFT SCORES AND WITKIN'S NORMATIVE DATA

		Mean	S.D.	Norm Mean[a]	S.D.	t	df	p
EFT	Male	41.19 (n=40)	16.90	45.5 (n=51)	28.5	0.84	84.92	n.s.
	Female	55.94 (n=40)	26.91	66.9 (n=51)	33.6	1.65	89.00	n.s.
RFT	Male	2.33 (n=40)	1.54	7.4 (n=136)	5.5	5.73	174.35	<.001
	Female	4.64 (n=40)	5.52	11.0 (n=258)	7.0	5.46	296.00	<.001

[a]Witkin et al., 1954.

Preliminary statistics demonstrated that for males the variance between the two samples was significantly different, with North Dakota males exhibiting significantly less variance on the field dependence measures. The t tests showed both male and female subjects at the University of North Dakota were significantly more field independent on the RFT than the males and females whose results comprised the normative data. The differences were significant at the .001 level. While the North Dakota sample demonstrated lower scores than the Witkin's group on the EFT, and hence, tended toward greater field independence on the measure, the difference was not significant at the .05 level for either sex.

The results from Spring 1976 obtained for the present study were also contrasted with scores obtained in Spring 1974 at the University of North Dakota (Table 3). Both sets of subjects were enrolled in introductory psychology at the time of testing with like testing equipment and methods used for both samples.

TABLE 3

SIGNIFICANCE OF DIFFERENCE BETWEEN RFT AND EFT SCORES OBTAINED IN 1974 AND 1976 AT THE UNIVERSITY OF NORTH DAKOTA

		1976 Mean	S.D.	1974 Mean[a]	S.D.	t	df	p
EFT	Male	41.19 (n=40)	16.90	38.92 (n=30)	23.6	0.46	51.45	N.S.
	Female	55.94 (n=40)	26.91	56.37 (n=30)	24.4	0.07	68.00	N.S.
RFT	Male	2.33 (n=40)	1.54	3.37 (n=30)	2.36	2.19	48.10	<.05
	Female	4.64 (n=40)	5.52	4.70 (n=30)	2.35	0.06	56.67	N.S.

[a]Torness, 1974.

Initial testing showed the variance between the two populations was significantly different for males on the EFT and for males and females on the RFT. Results in Table 3 show that the University of North Dakota males tested in 1976 were significantly more field independent than the males in the 1974 sample. No other differences in field dependence scores were significant between the 1974 and 1976 populations.

Attitude Toward Women Scale

The Attitude Toward Women Scale (AWS) scores are presented by sex in Table 4 with a t test utilized to assess sex differences. The higher score reflects more liberal attitudes toward women and their roles as measured by the AWS.

TABLE 4

MEANS, STANDARD DEVIATIONS, AND SIGNIFICANCE OF SEX DIFFERENCES ON THE AWS

	Females (n=40)		Males (n=40)				
	Mean	S.D.	Mean	S.D.	t	df	p
AWS	111.65	16.79	88.88	16.30	6.16	78	<.001

The sex difference is highly significant with females having a more liberal view toward women's roles and their rights than their male counterparts.

Results from the AWS administration in the present study were compared with results obtained by Spence and Helmreich (1972a). The AWS was administered to introductory psychology students at the

University of Texas at Austin in Fall 1971 and Spring 1972. In the Texas sample, Spence and Helmreich also found females to be significantly more liberal than males in attitudes tapped by the AWS ($p < .001$). Table 5 shows means and *t* tests comparing the North Dakota and Texas samples.

TABLE 5

SIGNIFICANCE OF DIFFERENCE BETWEEN AWS SCORES AND SPENCE'S NORMATIVE DATA

		Mean	S.D.	Norm Mean[a]	S.D.	t	df	p
AWS	Male	88.88 (n=40)	16.30	89.26 (n=713)	25.51	.09	50.91	N.S.
	Female	111.65	16.79	98.21	23.16	3.62	47.51	<.001

[a]Spence and Helmreich, 1972a.

The variance of the AWS scores was significantly less for both males and females in the North Dakota population. Females in the 1976 University of North Dakota sample were significantly more liberal in their attitudes toward women and their roles than women were four years ago at the University of Texas. Males in Texas and North Dakota, measured four years apart, did not differ in views expressed on the AWS.

AWS performance for subjects in the present study was compared with scores obtained by introductory psychology students at the University of North Dakota when the AWS was administered in 1974. The results of this comparison are presented in Table 6.

TABLE 6

SIGNIFICANCE OF DIFFERENCE BETWEEN AWS SCORES OBTAINED IN 1974 AND 1976 AT THE UNIVERSITY OF NORTH DAKOTA

		1976 Mean	S.D.	1974 Mean[a]	S.D.	t	df	p
AWS	Male	88.88 (n=40)	16.30	90.11 (n=101)	18.75	.36	139	N.S.
	Female	111.65 (n=40)	16.79	104.19 (n=79)	19.71	2.03	117	<.05

[a]Torness, 1974.

Women tested for the current research were significantly more liberal in their views toward themselves and their roles than the 1974 North Dakota sample. Over the two year period results showed no significant difference for the samples of men on the AWS.

In sum, the AWS results from the normative sample and two North Dakota samples demonstrate that women have consistently scored in a more liberal direction on the AWS than men. In the populations tested the liberalness of females' attitudes toward women and their roles has increased over the four year period while men's views have remained constant, thus widening an already significant gap between the sexes in their attitudes and expectations for women's roles.

Bem Sex Role Inventory

On the Bem Sex Role Inventory (BSRI) each subject received a score for masculinity and for femininity. Scores are based on a 7-point scale with the higher score indicating the higher degree of

either masculinity or femininity. The mean scores for each sex and *t* tests assessing the significance of sex differences are presented in Table 7.

TABLE 7

MEANS, STANDARD DEVIATIONS, AND SIGNIFICANCE OF SEX DIFFERENCES ON THE BSRI

	Females (n=40)		Males (n=40)				
	Mean	S.D.	Mean	S.D.	t	df	p
Masculinity Score	4.46	.66	5.03	.64	3.90	78	<.001
Femininity Score	4.98	.52	4.47	.57	4.20	78	<.001

As might be expected, test scores show females to be significantly more feminine than males and males significantly more masculine than females.

BSRI scores were compared with normative data obtained by Bem from introductory psychology students at Stanford University during winter and spring quarters in 1973. Table 8 shows *t* tests testing for significant differences between the two populations.

There were no significant differences on the BSRI between the University of North Dakota sample used for this study and Bem's normative population.

Occupational Choice

Means and standard deviations for the occupational choice measure are shown in Table 9. The means represent the percentage of males in the subject's vocational choice according to the 1970 census. A *t*

TABLE 8

SIGNIFICANCE OF DIFFERENCE BETWEEN BSRI SCORES AND BEM'S NORMATIVE DATA

	Mean	S.D.	Mean[a]	S.D.	t	df	p
			Males				
Masculinity Score	5.02 (n=40)	.67	4.97 (n=444)	.67	.45	482	N.S.
Femininity Score	4.47 (n=40)	.57	4.44 (n=444)	.55	.03	482	N.S.
			Females				
Masculinity Score	4.46 (n=40)	.51	4.57 (n=277)	.69	.97	315	N.S.
Femininity Score	4.99 (n=40)	1.98	5.01 (n=277)	.52	.14	315	N.S.

[a]Bem, 1974.

TABLE 9

MEANS, STANDARD DEVIATIONS, AND SIGNIFICANCE OF SEX DIFFERENCE ON THE OCCUPATIONAL CHOICE MEASURE

	Percentage Males in Occupational Choice	S.D.	t	df	p
Males (n=40)	78.38	21.08			
			10.51	78	<.001
Females (n=40)	39.88	28.03			

test indicates a significant sex difference with men choosing professions with a higher percentage of males already in the occupation.

Conformity-Dependency Measure

The conformity-dependency measure (C-D M) results are found in Table 10. Plus scores indicate a change in the direction of the confederate's suggestion. A t test showed no significant sex difference for the subjects participating in the research.

TABLE 10

MEANS, STANDARD DEVIATIONS, AND SIGNIFICANCE OF SEX DIFFERENCE ON THE CONFORMITY-DEPENDENCY MEASURE

	Conformity-Dependency Score	S.D.	t	df	p
Males (n=40)	.134	1.03			
			.04	78	N.S.
Females (n=40)	.142	0.81			

Correlational Analysis

Each of the 80 subjects who participated in the study received a score for each assessment measure previously mentioned. In testing the main hypothesis, these scores were used in computing Pearson Product Moment Correlations to assess the relationship between all measures. The correlation coefficients are presented in Table 11 for male and female scores combined.

The significance of the correlational matrix was determined by a chi square test, $\chi^2 = 76.64$, df = 21 (Anderson, 1958). This indicates that in general the variables are interrelated significantly ($p < .0000001$).

TABLE 11

CORRELATIONS BETWEEN ASSESSMENT MEASURES FOR MALES AND FEMALES COMBINED

	EFT	RFT	AWS	BSRI-Mas.	BSRI-Fem.	Occ. Choice	C-D M
EFT	-						
RFT	.61[a]	-					
AWS	.19[b]	.20[b]	-				
BSRI-Mas.	-.15	-.15	-.24[b]	-			
BSRI-Fem.	.13	.16	.29[c]	-.02	-		
Occ. Choice	.17	-.10	-.27[c]	.18	-.30[c]	-	
C-D M	.03	-.10	-.05	-.03	-.03	.02	-

[a] $p < .001$, two-tailed test

[b] $p < .05$, two-tailed test

[c] $p < .01$, two-tailed test

Table 11 shows seven significant correlations for male and female scores considered together. The most highly significant was the positive correlation between the EFT and RFT indicating that both measures of field dependence are tapping similar qualities with subjects scoring high on one also scoring high on the other. The remainder of the significant correlations with male and female subjects combined should be considered in light of the significant sex differences already demonstrated by _t_ tests. For both the EFT and

RFT there were significant positive correlations with AWS scores. Females scored higher and in a more liberal direction than males on the AWS and also were significantly more field dependent, i.e., exhibited higher scores on the EFT and RFT than males. There was a significant positive correlation between the BSRI-femininity scale and the AWS and a significant negative correlation between the BSRI-masculinity scale and the AWS. Again females scored higher than males on the AWS and BSRI-femininity scale and lower than males on the BSRI-masculinity scale. Occupational choice was significantly negatively correlated with AWS performance and the BSRI-femininity scale. Significant sex differences had also been found on these measures. Males selected more male dominated professions than females, and therefore, obtained higher scores on the occupational choice measure while receiving lower scores on the AWS and BSRI-femininity scale. To assess if these significant correlations are determined by factors other than significant sex differences, correlations are presented for male scores considered separately in Table 12 and for female scores only in Table 13.

The significance of the correlational matrices for males and for females was determined by chi square tests. For the correlational matrix for males χ^2 equals 29.41 with the degrees of freedom equaling 21 and for females χ^2 equals 26.35 with the degrees of freedom being 21. Neither chi square reached significance indicating that the interrelationship between variables in each correlational matrix was nonsignificant.

TABLE 12

CORRELATIONS BETWEEN ASSESSMENT MEASURES FOR MALES

	EFT	RFT	AWS	BSRI-Mas.	BSRI-Fem.	Occ. Choice	C-D M
EFT	-						
RFT	.47[a]	-					
AWS	-.02	-.24	-				
BSRI-Mas.	-.11	.17	-.09	-			
BSRI-Fem.	-.25	-.06	.09	.28	-		
Occ. Choice	-.04	.14	.17	-.24	-.10	-	
C-D M	-.05	-.01	.01	-.09	-.07	.00	-

[a] $p < .01$, two-tailed test

TABLE 13

CORRELATIONS BETWEEN ASSESSMENT MEASURES FOR FEMALES

	EFT	RFT	AWS	BSRI-Mas.	BSRI-Fem.	Occ. Choice	C-D M
EFT	-						
RFT	.63[a]	-					
AWS	.04	.14	-				
BSRI-Mas.	.03	.10	.05	-			
BSRI-Fem.	.17	.09	.02	.10	-		
Occ. Choice	.07	.10	.11	.01	.02	-	
C-D M	.09	-.18	-.16	.02	.01	.05	-

[a] $p < .001$, two-tailed test

There were significant correlations between the EFT and RFT for both sexes with the correlation for males being .47 and for females .63. The positive significant correlations show consistency of performance on both measures of field dependence. Witkin et al. (1962) found a correlation between the RFT and EFT of .64 for males and .21 for females in testing 51 subjects of each sex, with only the correlation for males reaching significance ($p < .01$). There were no other significant correlations when scores for each sex were correlated separately. However, there were some interesting differences between the sex's performance. The BSRI-femininity scale and the EFT correlation was positive for females and negative for males with the difference between the two correlations being .42. Also the correlations for the AWS and RFT were in opposite directions for each sex with the difference again being quite substantial (.38). To further analyze the data and to test for possible significant interactions where these opposite tendencies for each sex exist, analyses of variance (ANOVAs) were utilized.

ANOVA Analysis

In this section ANOVAs are presented in an effort to further dissect the data and to detect any significant effects that may not have been apparent in the correlational analysis.

AWS scores were divided into groups along the liberal/conservative dimension to test the hypothesis that women with liberal views would be more field dependent and men with liberal views more field independent as found in my 1974 study (Torness, 1974). In the previous study there was a significant interaction ($p < .05$) based on

EFT performance when male and female subjects scoring on the extreme liberal vs. conservative ends of the AWS scale were used as subjects. Means are presented below for the current study with a median split dividing subjects into conservative and liberal groups. The median is equal to an AWS score of 100 based on male and female scores combined.

TABLE 14

FIELD DEPENDENCE MEANS OF CONSERVATIVE FEMALES, LIBERAL FEMALES, LIBERAL MALES, CONSERVATIVE MALES AS DETERMINED BY A MEDIAN SPLIT ON THE AWS

	Females		Males	
	Conservative (n=9)	Liberal (n=31)	Conservative (n=30)	Liberal (n=10)
EFT	52.04	61.66	41.05	44.86
RFT	2.99	5.12	2.41	2.07

Mean scores on the field dependency measures were generally in the hypothesized direction with conservative females and liberal males having lower scores than their like-sexed counterparts, except for males on the EFT. Two-way ANOVAs were used to assess whether the interaction reached a significant level for either field dependency measure. A summary of the ANOVA for the EFT is found in Table 15 and for the RFT in Table 16.

The F value for the sex main effect approached significance ($p < .10 < .5$) for both the EFT and RFT. Unlike my 1974 study the interaction effect was not significant for either field dependence measure. Since extreme scorers on the AWS comprised the liberal and conservative

TABLE 15

ANOVA FOR EFT AND MEDIAN SPLIT ON THE AWS

Source	df	MS	F	Significance
Liberal vs. Conservative (A)	1	904.10	1.79	N.S.
Sex (B)	1	1627.70	3.23	.073
A X B	1	141.62	0.28	N.S.
Error	76	504.42		

TABLE 16

ANOVA FOR RFT AND MEDIAN SPLIT ON THE AWS

Source	df	MS	F	Significance
Liberal vs. Conservative (A)	1	10.54	0.64	N.S.
Sex (B)	1	50.15	3.01	.081
A X B	1	22.23	1.36	N.S.
Error	76	16.41		

groups in the 1974 research, ANOVAs were again computed by using subjects whose scores were one standard deviation above and below the AWS mean. Field dependence means for the extreme scorers are presented in Table 17.

A summary of ANOVA results for the EFT and RFT using extreme scorers on the AWS are found in Tables 18 and 19.

TABLE 17

FIELD DEPENDENCE MEANS OF CONSERVATIVE FEMALES, LIBERAL FEMALES, LIBERAL MALES, CONSERVATIVE MALES AS DETERMINED BY EXTREME SCORES ON THE AWS

	Females		Males	
	Conservative (n=6)	Liberal (n=7)	Conservative (n=6)	Liberal (n=7)
EFT	46.08	48.18	43.27	45.26
RFT	2.26	4.71	3.18	2.28

TABLE 18

ANOVA FOR EFT SCORES AND EXTREME SCORERS ON THE AWS

Source	df	MS	F	Significance
Liberal vs. Conservative (A)	2	249.73	0.50	N.S.
Sex (B)	1	4419.73	8.80	.004
A X B	2	854.62	1.70	N.S.
Error	74	502.34		

TABLE 19

ANOVA FOR RFT SCORES AND EXTREME SCORERS ON THE AWS

Source	df	MS	F	Significance
Liberal vs. Conservative (A)	2	4.72	0.28	N.S.
Sex (B)	1	107.23	6.45	.013
A X B	2	19.64	1.18	N.S.
Error	74	16.64		

The sex main effect reached significance for both the EFT and RFT but again the interaction effect did not reach a significant level. The present research failed to confirm the expected hypothesis of liberal vs. conservative attitudes toward women having an opposite relationship with field dependence depending on the subject's sex.

Bem's revised scoring system recommended dividing subjects into four groups based on the median masculinity and femininity scores for both sexes combined (Bem and Watson, 1976). Further data analysis was completed with subjects divided in this manner. For this subject population the median masculinity score was 4.77 and the median femininity score was 4.72. Means on the field dependency measures follow with subjects divided into the fourfold sex role classification.

TABLE 20

EFT MEANS OF SUBJECTS BY BSRI SEX ROLE CLASSIFICATION

Sex Role	Males	Females
Feminine (High Fem/Low Mas)	37.75 (n=4)	56.71 (n=20)
Undifferentiated (Low Fem/Low Mas)	45.62 (n=10)	54.83 (n=6)
Androgynous (High Fem/High Mas)	38.65 (n=8)	69.38 (n=8)
Masculine (Low Fem/High Mas)	40.63 (n=18)	36.58 (n=6)

TABLE 21

RFT MEANS OF SUBJECTS BY BSRI SEX ROLE CLASSIFICATION

Sex Role	Males	Females
Feminine	2.16 (n=4)	4.85 (n=20)
Undifferentiated	2.00 (n=10)	5.93 (n=6)
Androgynous	1.68 (n=8)	4.41 (n=8)
Masculine	2.83 (n=18)	2.91 (n=6)

To assess sex role effects on field dependency ANOVAs were performed using EFT and RFT scores as the dependent measures. The summary of the ANOVAs are presented in Tables 22 and 23.

TABLE 22

ANOVA FOR EFT SCORES AND BSRI SEX ROLE CLASSIFICATIONS

Source	df	MS	F	Significance
BSRI-Femininity (A)	1	436.80	0.89	N.S.
BSRI-Masculinity (B)	1	52.01	0.11	N.S.
Sex (C)	1	2347.55	4.78	.030
A X B	1	1343.69	2.74	N.S.
A X C	1	2124.93	4.33	.039
B X C	1	8.49	0.02	N.S.
A X B X C	1	603.25	1.23	N.S.
Error	72	491.23		

TABLE 23

ANOVA FOR RFT SCORES AND BSRI SEX ROLE CLASSIFICATIONS

Source	df	MS	F	Significance
BSRI-Femininity (A)	1	0.95	0.05	N.S.
BSRI-Masculinity (B)	1	4.03	0.23	N.S.
Sex (C)	1	80.82	4.69	.032
A X B	1	1.77	0.10	N.S.
A X C	1	3.02	0.18	N.S.
B X C	1	15.79	0.92	N.S.
A X B X C	1	14.62	0.85	N.S.
Error	72	17.24		

Sex differences were significant with females demonstrating greater field dependence on the EFT and RFT. The only other significant effect was an interaction effect with femininity and sex on the EFT. As shown by the mean scores in Table 20, femininity had a reverse relationship for the sexes with their EFT performance. Females lower in femininity (masculine and undifferentiated) had lower EFT scores and, therefore, demonstrated greater field independence. Males, on the other hand, with higher femininity scores (feminine and androgynous) exhibited lower EFT scores and were more field independent than males with femininity scores below the median.

Additional ANOVAs were computed to test for significant effects between variables utilized in this study. No significant results were obtained. The tables for additional ANOVAs appear in Appendix A.

CHAPTER IV

DISCUSSION AND CONCLUSIONS

Research studies have generally reported sex differences in field dependence, with males demonstrating greater field independence than females. Cultural factors and the encouragement of independent behavior have been shown to be related to the development of field dependence-independence. With changing sex roles in society, feminism and sex role equality may influence the traditionally found sex differences in field dependence. In the current study various aspects of feminist behavior were evaluated to determine if a relationship existed between these measures and field dependence. The present research was a correlational study examining relationships between sex role identity, sex role attitudes, and behavior with each other and with field dependence.

As the feminist movement is of relatively recent origin, at least as studied in psychological research, it appeared important to examine a number of measures of feminism in relationship to field dependence and in relationship to each other. It is felt a clearer idea is needed of what feminism is and how it may influence various aspects of a woman's life. The popular assumption may be that feminist views expressed on a paper and pencil attitude scale will carry over into other aspects of a woman's life such as a woman selecting a non-traditional career goal, but this may not necessarily hold true.

Another question that may be generated is what relationship would liberal attitudes on an attitude scale have with a woman behaving in an independent, assertive manner rather than giving a more stereotypically feminine, yielding and compliant response. An attempt was made in this study to more clearly define feminism by determining what relationship various measures of feminist attitude and behavior have with each other.

The results were that correlations performed between all variables utilized in this study were not significant for females or for males. These results bring into question research which classifies women as feminists on only one dimension i.e., career goals or attitudes expressed on a questionnaire on women's roles. It may be important in the future to conceptualize feminism as a multi-dimensional construct. Feminism may be expressed in varying degrees in different aspects of a woman's life.

Only the EFT and BSRI measurements showed any significant results. While the correlations between the masculinity and femininity scales on the BSRI and EFT were not significant, an ANOVA demonstrated a significant interaction effect between femininity and sex on the EFT. While females lower in femininity demonstrated greater field independence, males higher in femininity had increased field independence. In the past sex role identity and field independence studies have yielded contradicting results. Results from the present study lend support for the hypothesis of sex-reversed sex role identity indicating greater field independence for both sexes. This view was proposed by Arbuthnot (1975) but is contrary to Vaught's (1965) and Witkin et al. (1962) theory that greater masculinity for either sex is associated

with field independence. The proposal by Broverman, Klaiber, Kobayashi, and Vogel (1968) advocated constitutional factors as contributing to individual differences in field dependence, and in essence stated that large amounts of either estrogens or androgens will lead to poorer ability on restructuring tasks such as field dependence tests. An interesting research area would be to determine if sex role identity as measured by the BSRI is related to physical characteristics determining masculinity and femininity and, hence, perhaps partly biologically influenced.

The expected relationship for women between liberal attitudes toward female roles and field dependence as found in my 1974 study (Torness, 1974) was not found. Only persons scoring in the extreme liberal and conservative directions were used as subjects in the 1974 study. Greater field dependence in women with nontraditional attitudes on sex roles may be unique to extreme scorers. In the current study when extreme scorers on the AWS were analyzed by an ANOVA, the small number of subjects in the extreme groups may have contributed to nonsignificant results for scores were in the direction expected from the 1974 study (females with liberal scores demonstrated nonsignificantly greater field dependence and males, in general, demonstrated greater field independence).

The conformity measure did not show a relationship with field dependence or with any other variable. It had been predicted that non-conforming behavior, field independence, androgyny, and male-dominated career choice would be related for females. The manner for measuring conformity-dependency behavior was designed especially

for this experiment and the validity of the measure was not tested other than in the current experiment. The possibility exists that it was not a valid measure of conforming or dependency behavior. Since the situation was contrived and involved duping the subject, it is also possible the subject caught on to the hoax and, therefore, invalidated the situation.

Sex Difference Results

An important result in the sex differences found between the various measures was the continual increase in liberalness of females in their attitudes toward female roles as measured by the AWS and the lack of change in attitudes expressed by males as measured in the years 1972, 1974, and 1976 (Spence and Holmreich, 1972a; Torness, 1974). Parelius (1975) found in data collected in 1969 and 1973 that women expressed increased feminism in their attitudes over time but continued to perceive men as conservative in their attitudes. She predicted strains arising because of this. The research in North Dakota confirms women's suspicions of men as less accepting of sex role equality than women and that the gap between the sexes is growing wider with time. With increasing divergence arising between the sexes, it is agreed that there will indeed be strains that could extend into some central aspects of life such as male-female relationships, families, and/or work. Further research needs to be done in this area. This finding may be idiosyncratic to North Dakota.

Other sex differences were consistent with what might have been expected based on previous research. Results on the BSRI were comparable to Bem's normative data with females expressing greater femininity

and males being more masculine (Bem, 1974). The sex difference found in field dependence, with females significantly more field dependent, was in agreement with previous cited research. No sex difference was found in the conformity measure which is also in agreement with recent conformity research (Johnson and McDonnell, 1974; Sistruck and McDavid, 1971).

Concluding Comments

Feminism indeed appears to be a multi-dimensional trait with numerous facets to it that can not be reached by a single measurement. Findings in this research demonstrate the dangers of classifying females as feminists or traditionally feminine when measured on only one aspect of their behavior. In future research it is also felt it could be of benefit to use a less homogeneous group than introductory psychology students (i.e., working women and housewives) as more differences between the groups may become apparent.

Some cautions, perhaps, need to be taken into consideration with the feminist movement and recent research findings. The widening gap between the sexes in their views on sex roles with males significantly more conservative and females becoming increasingly more liberal may indeed lead to strains between males and females. Perhaps, research can be of some practical assistance in manners to handle this.

APPENDIX A

ANOVAs

TABLE 24

ANOVA FOR EFT SCORES AND MALE VS. FEMALE DOMINATED CAREER CHOICES

Source	df	MS	F	Significance
Male vs. Female Dominated Career Choice[a] (A)	1	736.55	1.45	N.S.
Sex (B)	1	4890.44	9.62	.01
A X B	1	12.04	0.02	N.S.
Error	76	508.33		

[a]Male-dominated career choice if >50% males in the occupation. Female-dominated career choice if <50% males in the occupation according to the 1970 census (U.S. Bureau of the Census, 1973).

TABLE 25

ANOVA FOR RFT SCORES AND MALE VS. FEMALE DOMINATED CAREER CHOICES

Source	df	MS	F	Significance
Male vs. Female Dominated Career Choice[a] (A)	1	12.66	0.76	N.S.
Sex (B)	1	111.59	6.72	.01
A X B	1	5.15	0.31	N.S.
Error	76	16.50		

[a]Male-dominated career choice if >50% males in the occupation. Female-dominated career choice if <50% males in the occupation according to the 1970 census (U.S. Bureau of the Census, 1973).

TABLE 26

ANOVA FOR AWS SCORES AND BSRI SEX ROLE CLASSIFICATIONS

Source	df	MS	F	Significance
BSRI-Femininity (A)	1	519.72	1.81	N.S.
BSRI-Masculinity (B)	1	2.02	0.01	N.S.
Sex (C)	1	6728.16	23.41	.001
A X B	1	33.58	0.12	N.S.
A X C	1	30.18	0.11	N.S.
B X C	1	36.85	0.12	N.S.
A X B X C	1	66.13	0.23	N.S.
Error	72	287.35		

TABLE 27

ANOVA FOR CONFORMITY-DEPENDENCY MEASURE AND BSRI SEX ROLE CLASSIFICATIONS

Source	df	MS	F	Significance
BSRI-Femininity (A)	1	0.02	0.03	N.S.
BSRI-Masculinity (B)	1	0.01	0.01	N.S.
Sex (C)	1	0.01	0.01	
A X B	1	1.95	2.30	N.S.
A X C	1	2.12	2.50	N.S.
B X C	1	0.03	0.03	N.S.
A X B X C	1	0.14	0.16	N.S.
Error	72	0.85		

APPENDIX B

ATTITUDE TOWARD WOMEN SCALE

The statements listed below describe attitudes toward the role of women in society which different people have. There are no right or wrong answers, only opinions. You are asked to express your feelings about each statement by indicating whether you (1) Agree strongly, (2) Agree mildly, (3) Disagree mildly, or (4) Disagree strongly. Please indicate your opinion by marking the column on the answer sheet which corresponds to the alternative which best describes your personal attitude. Please respond to every item.

(1) Agree strongly (2) Agree mildly (3) Disagree mildly (4) Disagree strongly

1. Women have an obligation to be faithful to their husbands.

2. Swearing and obscenity is more repulsive in the speech of a woman than a man.

3. The satisfaction of her husband's sexual desires is a fundamental obligation of every wife.

4. Divorced men should help support their children but should not be required to pay alimony if their wives are capable of working.

5. Under ordinary circumstances, men should be expected to pay all the expenses while they're out on a date.

6. Women should take increasing responsibility for leadership in solving the intellectual and social problems of the day.

7. It is all right for wives to have an occasional, casual, extramarital affair.

8. Special attentions like standing up for a woman who comes into a room or giving her a seat on a crowded bus are outmoded and should be discontinued.

9. Vocational professional schools should admit the best qualified students, independent of sex.

10. Both husband and wife should be allowed the same grounds for divorce.

11. Telling dirty jokes should be mostly a masculine prerogative.

12. Husbands and wives should be equal partners in planning the family budget.

13. Men should continue to show courtesies to women such as holding open the door or helping them on with their coats.

14. Women should claim alimony not as persons incapable of self-support but only when there are children to provide for or when the burden of starting life anew after the divorce is obviously heavier for the wife.

15. Intoxication among women is worse than intoxication among men.

16. The initiative in dating should come from the man.

17. Under modern economic conditions with women being active outside the home, men should share in household tasks such as washing dishes and doing the laundry.

18. It is insulting to women to have the "obey" clause remain in the marriage service.

19. There should be a strict merit system in job appointment and promotion without regard to sex.

20. A woman should be as free as a man to propose marriage.

21. Parental authority and responsibility for discipline of the children should be equally divided between husband and wife.

22. Women should worry less about their rights and more about becoming good wives and mothers.

23. Women earning as much as their dates should bear equally the expense when they go out together.

24. Women should assume their rightful place in business and all the professions along with men.

25. A woman should not expect to go to exactly the same places or to have quite the same freedom of action as a man.

26. Sons in a family should be given more encouragement to go to college than daughters.

27. It is ridiculous for a woman to run a locomotive and for a man to darn socks.

28. It is childish for a woman to assert herself by retaining her maiden name after marriage.

29. Society should regard the services rendered by the women workers as valuable as those of men.

30. It is only fair that male workers should receive more pay than women even for identical work.

31. In general, the father should have the greater authority than the mother in bringing up of children.

32. Women should be encouraged not to become sexually intimate with anyone before marriage, even their fiances.

33. Women should demand money for household and personal expenses as a right rather than as a gift.

34. The husband should not be favored by law over the wife in the disposal of family property or income.

35. Wifely submission is an outworn virtue.

36. There are some professions and types of businesses that are more suitable for men than women.

37. Women should be concerned with their duties of childbearing and housetending, rather than with desires for professional and business careers.

38. The intellectual leadership of a community should be largely in the hands of men.

39. A wife should make every effort to minimize irritation and inconvenience to the male head of the family.

40. There should be no greater barrier to an unmarried woman having sex with a casual acquaintance than having dinner with him.

41. Economic and social freedom is worth far more to women than acceptance of the ideal of femininity which has been set by men.

42. Women should take the passive role in courtship.

43. On the average, women should be regarded as less capable of contribution to economic production than are men.

44. The intellectual equality of woman with man is perfectly obvious.

45. Women should have full control of their persons and give or withhold sex intimacy as they choose.

46. The husband has in general no obligation to inform his wife of his financial plans.

47. There are many jobs in which men should be given preference over women in being hired or promoted.

48. Women with children should not work outside the home if they don't have to financially.

49. Women should be given equal opportunity with men for apprenticeship in the various trades.

50. The relative amounts of time and energy to be devoted to household duties on the one hand and to a career on the other should be determined by personal desires and interests rather than by sex.

51. As head of the household, the husband should have more responsibility for the family's financial plans than his wife.

52. If both husband and wife agree that sexual fidelity isn't important, there's no reason why both shouldn't have extramarital affairs if they want to.

53. The husband should be regarded as the legal representative of the family group in all matters of law.

54. The modern girl is entitled to the same freedom from regulation and control that is given to the modern boy.

55. Most women need and want the kind of protection and support that men have traditionally given them.

APPENDIX C

BEM SEX ROLE INVENTORY

Name_____
(Last) (First) (Middle)

Sex_____ Age_____

TELEPHONE_____(If you have no phone, please give us some way of contacting you, e.g., your address)

On the back you will be shown a large number of personality characteristics. We would like you to use those characteristics in order to describe yourself. That is, we would like you to indicate, on a scale from 1 to 7, how true of you these various characteristics are. Please do not leave any characteristic unmarked.

Example: sly

Mark a 1 if it is NEVER OR ALMOST NEVER TRUE that you are sly.

Mark a 2 if it is USUALLY NOT TRUE that you are sly.

Mark a 3 if it is SOMETIMES BUT INFREQUENTLY TRUE that you are sly.

Mark a 4 if it is OCCASIONALLY TRUE that you are sly.

Mark a 5 if it is OFTEN TRUE that you are sly.

Mark a 6 if it is USUALLY TRUE that you are sly.

Mark a 7 if it is ALWAYS TRUE OR ALMOST ALWAYS TRUE that you are sly.

Thus, if you feel it is sometimes but infrequently true that you are "sly," never or almost never true that you are "malicious," always or almost always true that you are "irresponsible," and often true that you are "carefree," then you would rate these characteristics as follows:

Sly	3	Irresponsible	7
Malicious	1	Carefree	5

DESCRIBE YOURSELF

1	2	3	4	5	6	7
Never or almost never true	Usually not	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

Self reliant

Yielding

Helpful

Defend own beliefs

Cheerful

Moody

Independent

Shy

Conscientious

Athletic

Affectionate

Theatrical

Assertive

Flatterable

Happy

Strong personality

Loyal

Unpredictable

Forceful

Feminine

Reliable

Analytical

Sympathetic

Jealous

Have leadership abilities

Sensitive to the needs of others

Truthful

Willing to take risks

Understanding

Secretive

Make decisions easily

Compassionate

Sincere

Self-sufficient

Eager to soothe hurt feelings

Conceited

Dominant

Soft-spoken

Likable

Masculine

Warm

Solemn

Willing to take a stand

Tender

Friendly

Aggressive

Gullible

Inefficient

Act as a leader

Childlike

Adaptable

Individualistic

Do not use harsh language

Unsystematic

Competitive

Love children

Tactful

Ambitious

Gentle

Conventional

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